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too small to be of any service in support of the contact theory; while, on the other hand, it affords delicate, and, therefore, strong indications in favour of the chemical theory.

827. A change was made in the form and arrangement of the cup D, fig. 65, so as to allow of experiments with other bodies than the metals. The solution of sulphuret of potassium was placed

in a shallow vessel, the platinum plate was bent so that the immersed extremity corresponded to the bottom of the vessel; on this a piece of loosely folded cloth was laid in the solution, and on that again the mineral or other substance to be

Fig. 55. compared with the platinum; the fluid being of such depth that only part of that substance was in it, the rest being clean and dry; on this portion the platinum wire, which completed the circuit, rested. The arrangement of this part of the circuit is given in section at fig. 66, where H represents a piece of galena to be compared with the platinum P.

828. In this way galena, compact yellow copper pyrites, yellow iron pyrites, and globules of oxide of burnt iron, were compared with platinum (the solution of sulphuret of potassium being the electrolyte used in the circuit), and with the same results as were before obtained with metals (817, 821).

829. Experiments hereafter to be described gave arrangements in which, with the same electrolyte, sulphuret of lead was compared with gold, palladium, iron, nickel, and bismuth (873, 874); also sulphuret of bismuth with platinum, gold, palladium, iron, nickel, lead, and sulphuret of lead (882), and always with the same result. Where no chemical action occurred there no current was formed; although the circuit remained an excellent conductor, and the contact existed by which, it is assumed in the contact theory, such a current should be produced.

830. Instead of the strong solution, a

dilute solution of the
yellow sulphuret of potassium, consisting
of one volume of strong
solution (800) and ten volumes of
water, was used. Plates
of platinum and iron were arranged in
this fluid as before
(812): at first the iron was negative
(1037), but in ten minutes
it was neutral, and the needle at o.
Then a weak chemical
current excited at x (819) easily
passed: and even a thermo
current (818) was able to show its
effects at the needle. Thus